

Appl. No. : 10/627,069  
Filed : July 25, 2003

### AMENDMENTS TO THE SPECIFICATION

Please amend paragraph [0064] as set forth below:

[0064] The preferred implantation parameters for H<sup>+</sup> ions in GaAs or InP related materials including MQW absorbers are as follows: The doses and the implantation energies can be selected from  $10^{12}$  cm<sup>-2</sup> to  $10^{17}$  cm<sup>-2</sup> and from 5 keV to 200 keV, respectively, for an optically absorbing layer thickness between 50 nm and 2000 nm. For MQW absorbers, the selective ion-implantation depth is rather difficult to measure because the shallow MQW falls into the implantation peak in Fig. 3. However, with the separation of MQW sections with spacers 209-212 (as shown in Fig. 2) it is feasible to employ depth selective ion implantation. For arsenic implantation, the implantation parameters for 50 – 2000 nm absorbing layer spans from  $10^{12}$  cm<sup>-2</sup> to  $10^{17}$  cm<sup>-2</sup> for the dosage and an implantation energy range of 100 keV to 1000 keV. In case of MQW saturable absorbers, the implantation range is preferably selected within the total thickness of the semiconductor layer structure containing MQW sections and spacers. In addition to H<sup>+</sup> and arsenic, any other ions such as for example Be can be implanted with controlled penetration depth by adjusting the above recipes according to the stability requirements of the desired laser. Depth selective ion implantation is illustrated in Fig. 2a in which dashed curve 201a represents the H<sup>+</sup> ion depth profile of Fig. 3.